AES Huntington Beach NPDES / 316(b) Discussion

June 20, 2007

Second Circuit §316(b) Decision

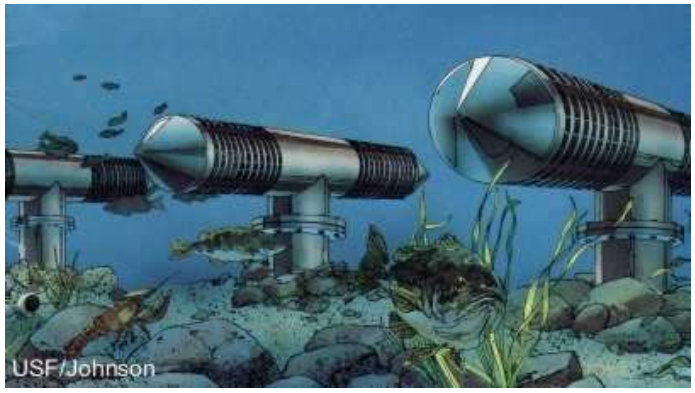
- Court Decision Results:
  - Restoration – Cannot be Used
  - Cost-Benefit – Cannot be Used
  - BTA – Remanded for clarification
  - Cost-Cost Test – Remanded for failure to provide public comment
  - TIOP - Remanded for failure to provide public comment

Remanded to EPA for Clarification

What is BTA?

- EPA must clarify the basis for the determination that closed-cycle cooling is not BTA for Phase II Facilities.
- If a performance standard range is used, facilities must use the **“best performing”** technology rather than the most cost effective unless there is an overlap in performance.

OR



Is Closed-Cycle Cooling BTA?

- The Court said EPA could consider three things in the clarification to determine if closed-cycle cooling is BTA:
  - Can the industry reasonably bear the cost
  - Impacts to energy production and efficiency
  - Adverse impacts associated with closed-cycle cooling

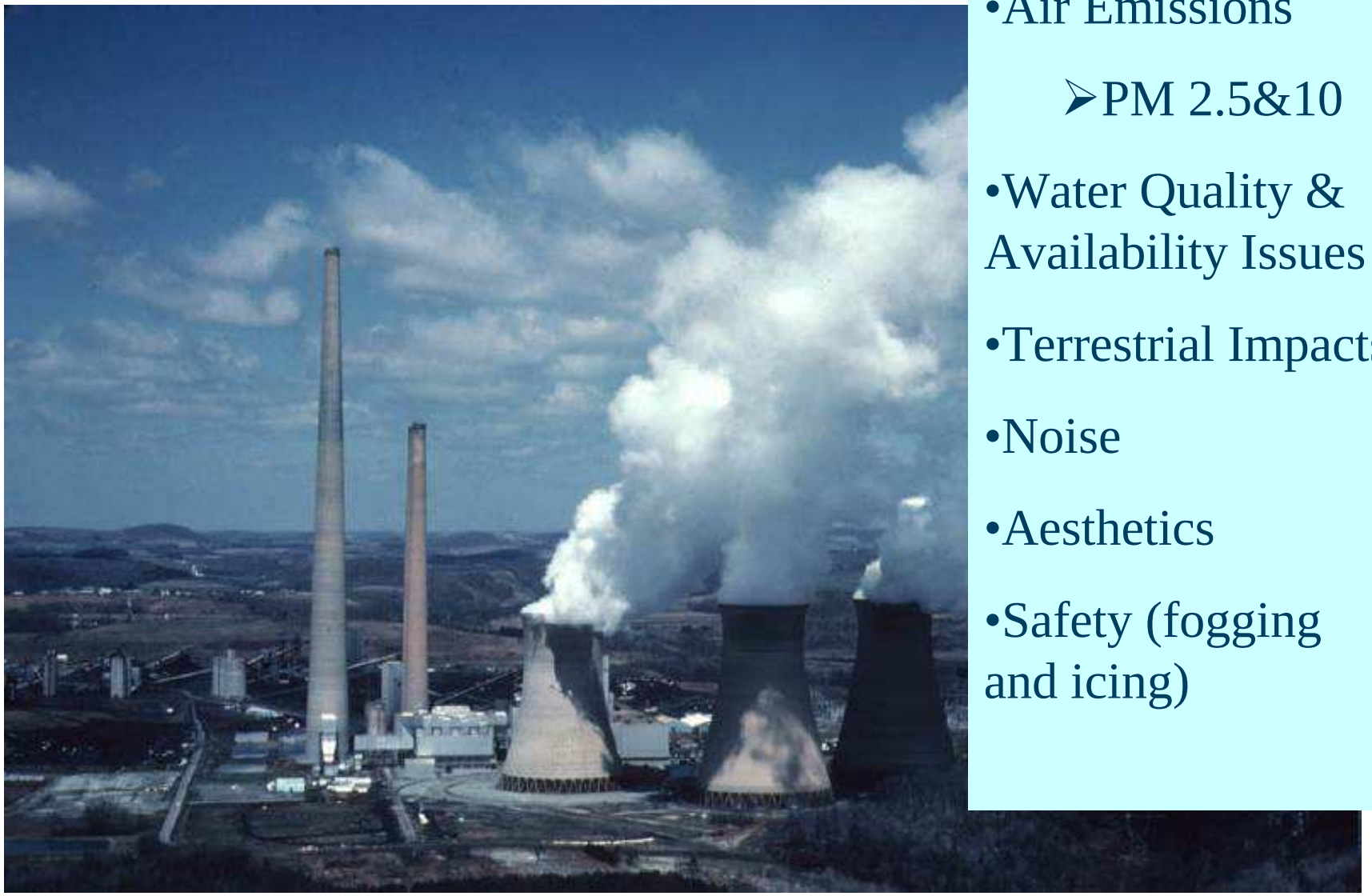
1. Can Industry Reasonably Bear the Cost?

- **Retrofits are generally more complicated and costly than installing cooling towers on a new facility.**
- **Significant Cost Factors:**
  - Cost for older economically marginal peaking units
  - Location of existing infrastructure relative to condenser waterbox
  - Higher cost for estuarine/salt water towers
  - Local climate impacts on cooling efficiency
  - Plume abatement
  - Feasibility a factor at some locations (i.e. space)

2. “Concerns About Energy Production and Efficiency”

- California energy production and efficiency could be impacted from two standpoints
  1. the number of older economically marginal peaking units (i.e. it may not make economic sense to retrofit such Units
  2. When facilities retrofit generation is lost due to:
     - MWs needed to run cooling tower fans and pumps
     - MWs lost due to the reduction in cooling efficiency.
- A large number of Unit retirements over a relatively short time period in addition to the retrofit energy penalty could have significant energy supply impacts in California.

3. “Negative Environmental Factors”



- Air Emissions
  - PM 2.5&10
- Water Quality & Availability Issues
- Terrestrial Impacts
- Noise
- Aesthetics
- Safety (fogging and icing)

Court Decision Developments

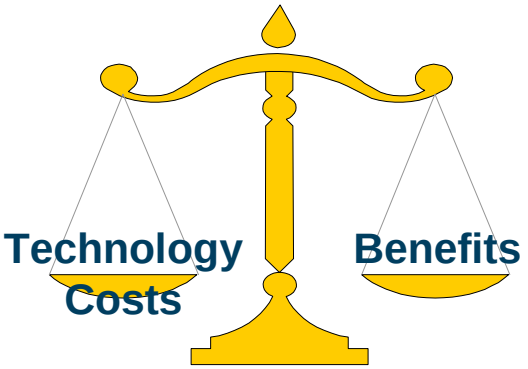
1. UWAG filed for a re-hearing in the Second Circuit Court
2. Appeal to the Supreme Court
   - EPA still considering this as an option
   - Clock stopped on filing pending outcome of re-hearing
   - 90 day clock starts after re-hearing

EPA Issues March 20, 2007 Memorandum to EPA Regions

- Actions laid out in memorandum:
  - Regions should consider the entire Rule to be suspended
  - Federal Register notice to be issued formally suspending the Rule
  - Implement §316(b) in NPDES permits on a BPJ basis
- It is not yet known when EPA will issue the Federal Register notice.

Court Decision Outcomes and Schedule?

- Wide range of outcomes possible:
  - The Second Circuit Court decision could be reversed such that restoration measures and/or the Cost-Benefit Test are allowable.
  - EPA could determine that wet or dry closed-cycle cooling is BTA.
- Factors affecting rulemaking schedule:
  - EPA s no longer under a Court ordered deadline
  - EPA did not budget staff or $$$s for 2007 Rule
  - Once EPA has resources 1-2 yrs likely before revised Final Rule



HBGS Current Permit §316(b) Requirements

- The HBGS was issued a BPJ permit.
  - Most of the HBGS permit language is based on the Federal Phase II Rule
  - A portion of the permit language is based on the **proposed** SWRCB §316(b) Policy that has not yet been finalized.
- Due to uncertainties regarding the State Board §316(b) Policy, interim focus on BPJ and EPA rulemaking plans the Board has indicated AES should proceed to comply with the BPJ permit.

§316(b) for HBGS Going Forward

- AES will proceed to comply with the permit with a focus on fish protection technologies, recognizing they are expected to be the focus of a revised EPA Rule and/or State Policy
- AES has initiated work to conduct a detailed analysis of fish protection technologies and operational measures with Alden Research Laboratories. This analysis includes evaluating:
  - moving the intake further offshore
  - use of alternative water sources
  - addressing engineering issues for narrow slot wedgewire screens
- AES has also initiated a contract to develop a site-specific cost estimate for a closed-cycle cooling retrofit.
- AES is proceeding to mitigate Unit 3&4 entrainment impacts

Impingement/Entrainment Study Results

- Entrainment
  - Most abundant taxa were gobies, spotfin croaker, and anchovies
  - Peak densities were recorded in summer (June to September)
  - Probability of Mortality (P_m) estimates were less than 0.5%

- Impingement
  - Most abundant fish taxa were queenfish, white croaker, and shiner perch
  - Peak fish impingement was recorded in January (queenfish)
  - Most abundant invertebrates were small nudibranchs, followed by rock crabs
  - Total impingement averaged:
    - 7.8 lbs. per day of fish
    - 1.0 lbs. per day of invertebrates

- IM&E Characterization Report in review by project team

Questions / Comments?